

Abstract Of The Disclosure

A method and apparatus for isolating and purifying a ^{213}Bi radioactive isotope from an ^{225}Ac source using a primary column and a primary sorbent which preferentially retains ^{225}Ac over ^{213}Bi when exposed to a compatible solvent in combination with a
5 secondary column having a secondary sorbent which retains ^{213}Bi when exposed to a mixture of the compatible solvent and ^{213}Bi . A “compatible solvent” is a solvent which will preferentially remove ^{213}Bi radioactive isotopes from a primary sorbent without removing ^{225}Ac radioactive isotopes, and then allow ^{213}Bi radioactive isotopes removed
10 from the primary sorbent to be retained on a secondary sorbent, without having to dilute or otherwise chemically or physically modify the compatible solvent in between exposure to the primary and secondary sorbents.